

What is claimed is:

1. An inkjet head comprising:

a cavity unit formed of a conductive material with a plurality of nozzles and a plurality of pressure chambers in fluid communication with the corresponding nozzles; and

an actuator including a plurality of sheet members laminated one on the other in a stacked direction, a plurality of drive electrodes corresponding to the pressure chambers, and a plurality of common electrodes, the plurality of drive electrodes and the plurality of common electrodes being arranged in alternation with respect to the stacked direction, each of the drive electrodes and the common electrodes being sandwiched between corresponding sheet members, wherein portions of the sheet members sandwiched between the drive electrodes and the common electrodes serve as active portions that selectively eject ink droplets from the corresponding pressure chambers through the nozzles, wherein

projected contours of all the drive electrodes fall within a projected contour of one of the common electrodes disposed closest to the cavity unit with respect to the stacked direction.

2. The inkjet head according to claim 1, wherein:

the plurality of pressure chambers are aligned in a first direction perpendicular to the stacked direction;

each of the drive electrodes has a length greater than the corresponding pressure chamber in a second direction perpendicular to both the first direction and the stacked direction, each drive electrode having a protruding portion protruding beyond the pressure chamber in the second direction;

the sheet members include first sheet members and second sheet members, each first sheet member being provided with the drive electrodes on a surface, each second sheet member being provided with one of the common electrodes on a surface;

the actuator further includes a plurality of dummy drive electrodes and conductive members, the plurality of dummy drive electrodes being formed on the surface of each second sheet member, except the second sheet member closest to the cavity unit, and corresponding to the protruding portions of the drive electrodes, the conductive members extending in the stacked direction to electrically connect the dummy drive electrodes to the corresponding protruding portions; and

the projected contours of all the drive electrodes including the protruding portions fall within the projected contour of the one of the common electrodes disposed closest to the cavity unit with respect to the stacked direction.

3. The inkjet head according to claim 2, wherein each

of the common electrodes has at least one lead-out portion,
and the actuator further includes a plurality of dummy
common electrodes each formed on the surface of each first
sheet member to correspond to the lead-out portions of the
common electrodes, the conductive members extending in the
5 stacked direction to electrically connect the dummy common
electrodes to the lead-out portions of the common electrodes.

4. The inkjet head according to claim 2, wherein:

the plurality of pressure chambers are aligned in a
10 plurality of rows each extending in the first direction;

the plurality of drive electrodes are aligned in a
plurality of rows each extending in the first direction in
correspondence with the pressure chambers;

the protruding portions of the drive electrodes
15 protrude outward beyond the pressure chambers in the second
direction;

the common electrodes are band-shaped common
electrodes extending in the first direction; and

the plurality of dummy drive electrodes are aligned in
20 the first direction along both sides of the band-shaped
common electrodes except the one of the common electrodes
closest to the cavity unit.

5. The inkjet head according to claim 2, wherein the
cavity unit is attached to one of the second sheet members.

25 6. The inkjet head according to claim 5, wherein the

cavity unit is attached to the one of the second sheet members using a non-ink-permeable and electrically insulative adhesive.

7. The inkjet head according to claim 5, wherein the sheet members, except two of the sheet members closest to the cavity unit, are formed with through holes penetrating through the protruding portions of the drive electrodes and the dummy drive electrodes, the through holes being filled with conductive past, the conductive past serving as the conductive members.

8. The inkjet head according to claim 5, further comprising a flexible cable disposed on the piezoelectric actuator so as to sandwich the piezoelectric actuator between the flexible cable and the cavity unit, wherein each of the common electrodes is connected to ground via the flexible cable.

9. The inkjet head according to claim 1, wherein the sheet members are piezoelectric ceramic sheets.

10. The inkjet head according to claim 1, wherein plural ones of the drive electrodes located closest to the cavity unit confront the cavity unit with more than one of the sheet members interposed between the plural ones of the drive electrodes and the cavity unit.

11. An inkjet printer comprising:

the inkjet head of claim 1; and

a frame that supports the inkjet head.

12. The inkjet printer according to claim 11,
wherein:

the plurality of pressure chambers are aligned in a
5 first direction perpendicular to the stacked direction;

each of the drive electrodes has a length greater than
the corresponding pressure chamber in a second direction
perpendicular to both the first direction and the stacked
direction, each drive electrode having a protruding portion
10 protruding beyond the pressure chamber in the second
direction;

the sheet members include first sheet members and
second sheet members, each first sheet member being provided
with the drive electrodes on a surface, each second sheet
15 member being provided with one of the common electrodes on a
surface;

the actuator further includes a plurality of dummy
drive electrodes and conductive members, the plurality of
dummy drive electrodes being formed on the surface of each
20 second sheet member, except the second sheet member closest
to the cavity unit, and corresponding to the protruding
portions of the drive electrodes, the conductive members
extending in the stacked direction to electrically connect
the dummy drive electrodes to the corresponding protruding
25 portions; and

the projected contours of all the drive electrodes including the protruding portions fall within the projected contour of the one of the common electrodes disposed closest to the cavity unit with respect to the stacked direction.

5 13. The inkjet printer according to claim 12, wherein each of the common electrodes has at least one lead-out portion, and the actuator further includes a plurality of dummy common electrodes each formed on the surface of each first sheet member to correspond to the lead-out portions of
10 the common electrodes, the conductive members extending in the stacked direction to electrically connect the dummy common electrodes to the lead-out portions of the common electrodes.

14. The inkjet printer according to claim 12,
15 wherein:

the plurality of pressure chambers are aligned in a plurality of rows each extending in the first direction;

the plurality of drive electrodes are aligned in a plurality of rows each extending in the first direction in
20 correspondence with the pressure chambers;

the protruding portions of the drive electrodes protrude outward beyond the pressure chambers in the second direction;

the common electrodes are band-shaped common
25 electrodes extending in the first direction; and

the plurality of dummy drive electrodes are aligned in the first direction along both sides of the band-shaped common electrodes except the one of the common electrodes closest to the cavity unit.

5 15. The inkjet printer according to claim 14, wherein the cavity unit is attached to one of the second sheet members.

10 16. The inkjet printer according to claim 15, wherein the cavity unit is attached to the one of the second sheet members using a non-ink-permeable and electrically insulative adhesive.

15 17. The inkjet printer according to claim 12, wherein the sheet members, except two of the sheet members closest to the cavity unit, are formed with through holes penetrating through the protruding portions of the drive electrodes and the dummy drive electrodes, the through holes being filled with conductive past, the conductive past serving as the conductive members.

20 18. The inkjet printer according to claim 12, wherein the inkjet head further includes a flexible cable disposed on the piezoelectric actuator so as to sandwich the piezoelectric actuator between the flexible cable and the cavity unit, wherein each of the common electrodes is connected to ground via the flexible cable.

25 19. The inkjet printer according to claim 11, wherein

the sheet members are piezoelectric ceramic sheets.

20. The inkjet printer according to claim 11, wherein plural ones of the drive electrodes located closest to the cavity unit confront the cavity unit with more than one of the sheet members interposed between the plural ones of the drive electrodes and the cavity unit.